WHAT IS CLAIMED IS:

1. An electronic circuit comprising:

a first transistor that becomes on-state when a scan line is selected;

a capacitive element for holding an electrical-charge amount according to a data signal transmitted from a data line via the first transistor; and

a second transistor whose conduction state is controlled, based on the electrical-charge amount held in the capacitive element, the second transistor being used for transmitting a current amount corresponding to the conduction state to an electronic element,

wherein the electrical-charge amount according to the data signal can be accumulated in the capacitive element even when either a two-level-data voltage or a multilevel-data voltage is transmitted as the data signal.

2. An electronic circuit according to Claim 1,

wherein the two-level-data voltage and the multilevel-data voltage are transmitted via one and the same first switching transistor.

3. An electronic circuit according to Claim 1, further comprising:

a third transistor for resetting the electrical-charge amount held in the capacitive element.

4. An electronic circuit according to Claim 1, further comprising:

a fourth transistor of which conductivity is controlled according to the multilevel-data voltage, the fourth transistor being connected between the gate and drain of the second transistor, the fourth transistor being used for compensating the threshold voltage of the second transistor.

5. An electronic circuit according to Claim 1, further comprising:

a fifth transistor that determines the timing of driving the electronic element.

6. An electronic circuit according to Claim 1, wherein the electronic element is an EL element.

7. An electronic circuit according to Claim 6, wherein the EL element has a light-emission layer formed of an organic material.

8. An electro-optical device comprising:

a plurality of scan lines;

a plurality of data lines;

a plurality of unit circuits;

a first data-voltage output circuit for outputting a two-level-data voltage as a data signal to each of the plurality of unit circuits via a respective data line of the plurality of data lines;

a second data-voltage output circuit for outputting a multilevel-data voltage to each of the plurality of unit circuits via a respective data line of the plurality of data lines.

9. An electro-optical device according to Claim 8,

wherein the two-level-data voltage and the multilevel-data voltage are transmitted via one and the same data line of the plurality of data lines.

10. An electro-optical device according to Claim 8,

wherein the two-level-data voltage and the multilevel-data voltage are transmitted via data lines of the plurality of data lines that are different from each other.

11. An electro-optical device comprising:

a plurality of scan lines;

a plurality of data lines provided so as to cross the scan lines;

a unit circuit that is provided so as to correspond to each of the intersections of the plurality of scan lines and the plurality of data lines and that transmits a drive current according to a data voltage transmitted via a respective data line of the plurality of data lines to an electro-optical element; and

control means for generating and outputting either a two-level-data voltage for applying digital-gray-scale modulation to the electro-optical element or a multilevel-data voltage for applying analog-gray-scale modulation to the electro-optical element, based on image data.

12. An electro-optical device according to Claim 11,

wherein the unit circuit comprises:

a first transistor that becomes on-state when a respective scan line of the plurality of scan lines is selected;

a capacitive element for holding either a two-level-data voltage for digital-gray-scale modulation or a multilevel-data voltage for analog-gray-scale modulation transmitted from a respective data line of the plurality of data lines via the first transistor as an electrical-charge amount; and

a second transistor whose conduction state is controlled, based on the electrical-charge amount held in the capacitive element, the second transistor being used for transmitting a current amount corresponding to the conduction state to the electro-optical element.

13. An electro-optical device according to Claim 12,

wherein the unit circuit further comprises:

a third transistor for resetting the electrical-charge amount held in the capacitive element.

14. An electro-optical device according to Claim 12,

wherein the unit circuit further comprises a fourth transistor for compensating the threshold voltage of the second transistor, the fourth transistor being connected between the gate and drain of the second transistor when the analog-gray-scale modulation is performed.

15. An electro-optical device according to Claim 11,

wherein the unit circuit further comprises a fifth transistor for determining the timing of driving the electro-optical element.

16. An electro-optical device according to Claim 11,

wherein the electro-optical element is an EL element.

17. An electro-optical device according to Claim 16,

wherein the EL element has a light-emission layer formed of an organic material.

18. An electro-optical device according to Claim 11,

wherein the control means generates the two-level-data voltage for applying the digital-gray-scale modulation to the electro-optical element in low-electrical-power-consumption mode and the multilevel-data voltage for applying the analog-gray-scale modulation to the electro-optical element in non-low-electrical-power-consumption mode for driving the electro-optical element.

19. An electro-optical device according to Claim 11,

wherein the control means generates the two-level-data voltage for applying the digital-gray-scale modulation to the electro-optical element when the image data is first display data and the multilevel-data voltage for applying the analog-gray-scale modulation to the electro-optical element when the image data is second display data whose display quality is higher than that of the first display data for driving the electro-optical element.

20. An electro-optical device according to Claim 18,

wherein the control means comprises:

a two-level-data-voltage generation circuit for generating the two-level-data voltage for applying the digital-gray-scale modulation to the electro-optical element; and

a multilevel-data-voltage generation circuit for generating the multilevel-data voltage for applying the analog-gray-scale modulation to the electro-optical element.

21. An electro-optical device according to Claim 18, wherein:

the device comprises between the control means and each of the data line a first output circuit for outputting the two-level-data voltage transmitted from the two-level-data-voltage generation circuit and a second output circuit for outputting the multilevel-data voltage transmitted from the multilevel-data-voltage generation circuit; and further comprises a switching circuit for outputting either the two-level-data voltage from the first output circuit or the multilevel-data voltage from the second output circuit to the data line.

22. An electro-optical device according to Claim 11,

wherein the digital-gray-scale modulation is time-ratio gray-scale modulation.

23. An electro-optical device according to Claim 22,

wherein the time-ratio gray-scale modulation is performed by writing the two-level-data voltage into the unit circuit corresponding to one of the scan lines selected in sequence and starting transmission of a current with a level according the two-level-data voltage to the electro-optical element at the same instant, and stopping the current transmission to the electro-optical element after a predetermined time.

24. A method for driving an electro-optical device comprising:

a plurality of scan lines;

a plurality of data lines provided so as to cross the scan lines; and

a unit circuit that is provided so as to correspond to each of the intersections of the scan lines and the data lines and that transmits a drive current according to a data voltage transmitted via a respective data line of the plurality of data lines to an electro-optical element,

wherein the electro-optical element is driven by generating a two-level-data voltage for applying digital-gray-scale modulation to the electro-optical element in low-electrical-power-consumption mode and a multilevel-data voltage for applying analog-gray-scale modulation to the electro-optical element in non-low-electrical-power-consumption mode.

25. A method for driving an electro-optical device comprising:

a plurality of scan lines;

a plurality of data lines provided so as to cross the scan lines; and

a unit circuit that is provided so as to correspond to each of the intersections of the scan lines and the data lines and that transmits a drive current according to a data voltage

transmitted via a respective data line of the plurality of data lines to an electro-optical element,

wherein the electro-optical element is driven by generating a two-level-data voltage for applying digital-gray-scale modulation to the electro-optical element when image data is first display data and a multilevel-data voltage for applying analog-gray-scale modulation to the electro-optical element when the image data is second display data whose display quality is higher than that of the first display data.

26. A method for driving an electro-optical device according to Claim 24, wherein the digital-gray-scale modulation is time-ratio gray-scale modulation.

27. A method for driving an electro-optical device according to Claim 26, wherein the time-ratio gray-scale modulation is performed by writing the two-level-data voltage into the unit circuit corresponding to one of the scan lines selected in sequence and starting transmission of a current with a level according the two-level-data voltage to the electro-optical element at the same instant, and stopping the current transmission to the electro-optical element after a predetermined time.

28. An electronic apparatus having an electro-optical device according to Claim 8 mounted thereon.